

April 15, 2009

MEMORANDUM TO: R. W. Borchardt  
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary **/RA/**

SUBJECT: STAFF REQUIREMENTS – SECY-08-0184 – STRATEGY FOR  
THE SECURITY AND USE OF CESIUM-137 CHLORIDE  
SOURCES

The Commission has approved the staff's recommendation for Option 1 to enhance security and issue a Commission Policy Statement, subject to the comments noted below. Under this option the staff would continue to work with Federal, state, and international partners to assess the risk environment and to continue to encourage further technological developments for alternative forms of cesium-137. The Commission supports the staff's conclusion that near term replacement of cesium chloride sources in existing blood, research, and calibration irradiators is not practicable and would be disproportionately detrimental to the delivery of medical care, the continuity of longstanding research, and the provision of emergency response capabilities. In addition, the increased controls required by the NRC and Agreement States and implemented by licensees, along with voluntary additional facility and device hardening measures, have significantly improved the security of these sources. The Commission agrees with the Organization of Agreement States that "it is imperative to develop a viable alternative technology and a disposal option for these sources before considering the phase-out of them."

The staff should work with Federal agencies to define the criteria for a dispersible source of concern. The definition should include a clearly defined set of criteria regarding the dispersibility and other material properties as these relate to mitigating the consequences of a radiation dispersal device. These criteria should then be used to guide research efforts to develop an alternate form.

Research should be conducted to develop an alternative chemical form for large activity cesium-137 sealed sources. While it is not the NRC's role to conduct such research, the staff can and should engage its Federal partners in efforts to identify a lead agency or agencies to conduct research and/or to provide incentives to facilitate development of alternative chemical forms for cesium-137. The potential domestic and/or international production facilities should be involved in this research to ensure that the research considers the practicality of producing the end product. To the extent practical, the results of this national approach should be shared with our international partners as part of exploring new international standards for such sources. The staff should report to the Commission in 9 months the results of interagency efforts to identify a lead agency or agencies to champion a national approach to development of alternative chemical forms for cesium-137 that diminish the utility of such sources in a radiation dispersal device.

The staff should develop, with other federal partners, options for a strategy for end-of-life management of cesium-137 chloride sources and advise the Commission of potential legislative changes, if any, necessary to support such end-of-life management strategies.

In developing the Policy Statement to delineate the Commission's emphasis on security of cesium chloride sources, the staff should not include the Commission's vision for future developments in the safety and security of cesium chloride source until a defined set of criteria for dispersibility is developed and alternative source options are defined.

The staff should continue to work with the NRC's Federal partners to implement the voluntary hardening program for certain blood and research irradiators and explore other possible Federally-funded voluntary initiatives to augment the safety and security for these essential components of our Nation's infrastructure.

The staff should report back to the Commission on the interagency efforts of the Radiation Source Protection and Security Task Force as progress is made towards a comprehensive approach to improve the security of Cs-Cl sources, which includes physical security upgrades, the development of a government-facilitated disposal pathway, short-term and long-term research and development of alternative technologies, and the development of a government-incentivized program for the replacement of existing sources with effective alternatives.

cc: Chairman Klein  
Commissioner Jaczko  
Commissioner Lyons  
Commissioner Svinicki  
OGC  
CFO  
OCA  
OPA  
Office Directors, Regions, ACRS, ASLBP (via E-Mail)  
PDR